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Pre Amdt

Claims (clean version encompassing amendments)

What is claimed is:

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1. (once amended) A method of detecting and analysing differences between nucleic acids from two sources, which method comprises:

   a. providing the nucleic acids from two sources as labelled probes wherein the nucleic acids from two sources are labelled with two different markers;

   b. forming a mixture of the labelled probes with pooled reagents wherein each of the pooled reagents comprises a population of beads carrying a polynucleotide target, the polynucleotide target of any one of the pooled reagents being different from the target of any other of the pooled reagents and the beads of any one of the pooled reagents being distinguishable from the beads of any other of the pooled reagents;

   c. incubating the mixture under conditions to promote specific hybridisation between probes and targets; and

   d. analysing beads in the mixture by flow cytometry.

2. The method of claim 1 wherein the nucleic acids from two sources are mRNA or cDNA from cells or tissues.

3. (once amended) The method of claim 1 wherein the polynucleotide targets are cDNA derived from cellular mRNA.

A2

4. (once amended) The method of claim 1 wherein the polynucleotide targets are PCR amplimers.

5. (once amended) The method of claim 1 wherein the polynucleotide targets contain terminal biotin groups through which they are attached to streptavidin-coated beads.

6. (once amended) The method of claim 1 wherein the polynucleotide targets are single-stranded nucleic acids.

7. (once amended) The method of claim 1 wherein the nucleic acids are single-stranded nucleic acids.

8. (once amended) The method of claim 1 wherein beads of one pooled reagent are distinguishable from beads of another pooled reagent by size.

9. (once amended) The method of claim 1 wherein beads of one pooled reagent are distinguishable from beads of another pooled reagent by the nature of one or more

markers attached to the beads.

A2

10. (once amended) The method of claim 1 wherein beads of one pooled reagent are distinguishable from beads of another pooled reagent by the concentration of one or more markers attached to the beads.

11. (once amended) The method of claim 1 wherein beads of one pooled reagent are distinguishable from beads of another pooled reagent by the size and/or by the nature and the concentration of one or more markers attached to the beads.

12. (once amended) The method of claim 9 wherein the markers are fluorescent markers attached to the beads.

13. (once amended) The method of claim1 wherein each of the nucleic acids is labelled with a fluorescent tag to indicate its source.

14. (once amended) The method of claim 1 wherein the analysis by flow cytometry is performed to identify each bead and to quantify the probes bound thereto.

15. (once amended) The method of claim 1 further comprising the step of analysing the data obtained by flow cytometry to yield information about the relative and/or

A2

absolute abundances of individual nucleic acid sequences contained within the nucleic acids from two sources.

A3

16. (new) The method of claim 10 wherein the markers are fluorescent markers attached to the beads.

17. (new) The method of claim 11 wherein the markers are fluorescent markers attached to the beads.